REMARKS

Applicants and their attorney thank the Examiner for the telephone conference of February 26, 2003 during which the foregoing claim amendments were discussed.

Claims 1-3, 11-12, 15-19, 24 and 25 were pending in the application. Claims 3, 19 and 25 have been amended. Accordingly, after the amendments presented herein have been entered, claims 1-3, 11-12, 15-19, 24 and 25 will remain pending. For the Examiner's convenience all of the pending claims are set forth in Appendix A.

Support for the amendments to the claims a can be found throughout the specification including the originally filed claims. Specifically, support for the amendments to claims 3 and 19 can be found at, for example, page 11, lines 1-6 of the specification. Support for the amendment to claim 25 can be found at, for example, page 10, lines 8-38 of the specification.

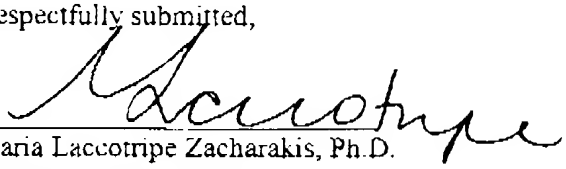
Attached hereto is a marked-up version of the changes made to the claims by the current amendments. The attached page is captioned "**Version With Markings to Show Changes Made.**"

No new matter has been added. Any amendments to the claims should in no way be construed as an acquiescence to any of the Examiner's rejections and were done solely to expedite the prosecution of the application. Applicants reserve the right to pursue the claims as originally filed in this or a separate application(s).

CONCLUSION

Reconsideration and allowance of all the pending claims is respectfully requested. If a telephone conversation with Applicants' Attorney would expedite prosecution of the above-identified application, the Examiner is urged to call the undersigned at (617) 227-7400.

Respectfully submitted,



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Dated: February 28, 2003

VERSION WITH MARKINGS TO SHOW CHANGES MADE

3. A method for identifying a compound suitable for treating a cardiovascular disorder, comprising:

a) incubating a cell expressing i) a potassium channel comprising a Kv4.3 or Kv4.2 subunit, or a fragment ~~of a potassium channel comprising a Kv4.3 or Kv4.2 subunit~~ thereof that functions as a potassium channel and ii) a 9q PCIP polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NOs: 14, 16, 18, 20, 22, 24, 26, and 28, in the presence and absence of a candidate compound; and

b) determining whether the presence of the candidate compound modulates the interaction of the potassium channel or fragment thereof with said 9q PCIP polypeptide, thereby identifying a compound suitable for treating a cardiovascular disorder

19. A method for identifying a compound suitable for treating a cardiovascular disorder, comprising:

a) incubating a cell expressing i) a potassium channel comprising a Kv4.3 or Kv4.2 subunit, or a fragment ~~of a potassium channel comprising a Kv4.3 or Kv4.2 subunit~~ thereof that functions as a potassium channel, and ii) a biologically active fragment of a 9q PCIP polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NOs: 14, 16, 18, 20, 22, 24, 26, and 28, wherein said biologically active fragment is selected from the group consisting of an EF domain, residues 68-252 of human 9q, and a Kv4.3 or Kv4.2 potassium channel α subunit binding domain, in the presence and absence of a candidate compound; and

b) determining whether the presence of the candidate compound modulates the interaction of the potassium channel or fragment thereof with said biologically active fragment of said 9q PCIP polypeptide, thereby identifying a compound suitable for treating a cardiovascular disorder.

25. A method for identifying a compound suitable for treating a cardiovascular disorder comprising:

a) contacting a polypeptide that is at least 95% identical to a 9q PCIP polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NOs: 14, 16, 18, 20, 22, 24, 26, and 28 and retains a ~~9q PCIP activity~~ the ability to bind to a Kv4 channel, or a cell expressing said polypeptide with a test compound; and

b) determining whether said polypeptide binds to said test compound, thereby identifying a compound suitable for treating a cardiovascular disorder.

Appendix A

1. A method for identifying a compound suitable for treating a cardiovascular disorder comprising:

a) contacting a 9q PCIP polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NOs: 14, 16, 18, 20, 22, 24, 26, and 28, or a cell expressing said 9q PCIP polypeptide with a test compound; and

b) determining whether said 9q PCIP polypeptide binds to said test compound, thereby identifying a compound suitable for treating a cardiovascular disorder

2. The method of claim 1, wherein the binding of said test compound to said 9q PCIP polypeptide, is detected by a method selected from the group consisting of:

a) detection of binding by direct detection of test compound/polypeptide binding;

b) detection of binding using a competition binding assay; and

c) detection of binding using an assay for PCIP activity.

3. A method for identifying a compound suitable for treating a cardiovascular disorder, comprising:

a) incubating a cell expressing i) a potassium channel comprising a Kv4.3 or Kv4.2 subunit, or a fragment thereof that functions as a potassium channel and ii) a 9q PCIP polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NOs: 14, 16, 18, 20, 22, 24, 26, and 28, in the presence and absence of a candidate compound; and

b) determining whether the presence of the candidate compound modulates the interaction of the potassium channel or fragment thereof with said 9q PCIP polypeptide, thereby identifying a compound suitable for treating a cardiovascular disorder.

11. The method of any one of claims 1, 3, 17 or 19 wherein said cardiovascular disorder is associated with an abnormal I_{to} current.

12. The method of any one of claims 1, 3, 17 or 19, wherein said 9q PCIP is a human 9q.

15. The method of any one of claims 1, 3, 17 or 19, wherein said cardiovascular disorder is long-QT syndrome.

16. The method of any one of claims 1, 3, 17 or 19, wherein said cardiovascular disorder is congestive heart failure.

17. A method for identifying a compound suitable for treating a cardiovascular disorder comprising:

a) contacting a biologically active fragment of a 9q PCIP polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NOs: 14, 16, 18, 20, 22, 24, 26, and 28, wherein said biologically active fragment is selected from the group consisting of an EF domain, residues 68-252 of human 9q, and a Kv4.3 or Kv4.2 potassium channel α subunit binding domain, or a cell expressing said biologically active fragment of said 9q PCIP polypeptide with a test compound; and

b) determining whether said biologically active fragment binds to said test compound, thereby identifying a compound suitable for treating a cardiovascular disorder.

18. The method of claim 17, wherein the binding of said test compound to said biologically active fragment of said 9q PCIP polypeptide, is detected by a method selected from the group consisting of:

a) detection of binding by direct detection of test compound/biologically active fragment binding;

b) detection of binding using a competition binding assay; and

c) detection of binding using an assay for PCIP activity.

19. A method for identifying a compound suitable for treating a cardiovascular disorder, comprising:

a) incubating a cell expressing i) a potassium channel comprising a Kv4.3 or Kv4.2 subunit, or a fragment thereof that functions as a potassium channel, and ii) a biologically active fragment of a 9q PCIP polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NOs: 14, 16, 18, 20, 22, 24, 26, and 28, wherein said biologically active fragment is selected from the group consisting of an EF domain, residues 68-252 of human 9q,

and a Kv4.3 or Kv4.2 potassium channel α subunit binding domain, in the presence and absence of a candidate compound; and

b) determining whether the presence of the candidate compound modulates the interaction of the potassium channel or fragment thereof with said biologically active fragment of said 9q PCIP polypeptide, thereby identifying a compound suitable for treating a cardiovascular disorder.

24. The method of claim 17 or 19, wherein the EF domain is selected from the group consisting of:

a) residues 116-127, 153-164, 189-200, or 237-248 of SEQ ID NO 14;

b) residues 103-114, 140-151, 176-187, or 224-235 of SEQ ID NO:16;

c) residues 116-127, 153-164, 189-200, or 237-248 of SEQ ID NO:18;

d) residues 98-109, 135-146, 171-182, or 219-230 of SEQ ID NO:20;

e) residues 98-109, 135-146, 171-182, or 219-230 of SEQ ID NO:22;

f) residues 116-127, 103-114, 139-150, or 187-198 of SEQ ID NO:24;

g) residues 66-77, 103-114, 189-200 or 237-248 of SEQ ID NO:26; and

h) residues 98-109, 135-146, 171-182, or 219-230 of SEQ ID NO:28.

25. A method for identifying a compound suitable for treating a cardiovascular disorder comprising:

a) contacting a polypeptide that is at least 95% identical to a 9q PCIP polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NOs: 14, 16, 18, 20, 22, 24, 26, and 28 and retains a the ability to bind to a Kv4 channel, or a cell expressing said polypeptide with a test compound; and

b) determining whether said polypeptide binds to said test compound, thereby identifying a compound suitable for treating a cardiovascular disorder.